ENVIRON

170035 K.7 4/22/99

April 22, 1999

Mr. Michael McAteer United States Environmental Protection Agency Region V, HSR-6J 77 West Jackson Blvd. Chicago, IL 60604

Subject: Exit Soil Sample Results from the Southern Pad Area

Enviro-Chem Site, Zionsville, Indiana

Dear Mr. McAteer:

This letter presents the results of the exit soil samples collected from the floor and side walls of the excavation of the Southern Concrete Pad Area at the Enviro-Chem Site (ECC) in Zionsville, Indiana. This area was excavated during the summer of 1998 as part of the remedy outlined in the Revised Exhibit A to the Consent Decree (Revised Exhibit A), dated May 7, 1997. According to Section 2.1.1 of Revised Exhibit A, the results of the exit soil samples will "affect whether and the extent to which a RCRA-Compliant (Subtitle C) cover may be required over some or all of the backfilled area".

Between July 14, 1998 and August 18, 1998, exit soil samples were collected from 30 locations from within the Southern Pad Area excavation. Each sample location was chosen by United States Environmental Protection Agency (USEPA) representatives and co-located samples were collected by both the USEPA representative and the ECC Trustees' representatives. ENVIRON International Corporation (ENVIRON) and Radian International Corporation (Radian) collected the exit samples on behalf of the ECC Trustees. Both sets of co-located samples were collected using the same sampling techniques and in accordance with the Quality Assurance Project Plan (QAPP).

Reference points were placed around the excavation area and were surveyed by Schneider Corporation of Indianapolis, Indiana. Each exit sample location was then located by measuring its position from the surveyed reference points. Coordinates for each exit sample location were then calculated using the measurement and survey data. The sample locations, coordinates, location names, sample identification numbers, and collection dates are summarized in Table 1. Figure 1 shows the sample locations as well as the surveyed reference points.

Each sample was analyzed for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) using USEPA's *Test Methods for Evaluating Solid Waste* – *Physical/Chemical Methods, SW-846* Methods 8260A and 8270B, respectively. The sample analyses were performed by Southern Petroleum Laboratory, Incorporated of Lafayette Louisiana. The soil sample analytical results were compared to the Acceptable Soil Criteria obtained from Table 3-1 of the Revised Exhibit A. For informational purposes only, the analytical results were also compared to the Indiana Department of Environmental Management's (IDEM's) Interim Draft Risk-Integrated System of Closure (RISC) Tier 1 Commercial/Industrial Default Closure Levels. The comparison to the RISC Tier 1 Default Closure Levels was done

since the Resource Conservation and Recovery Act (RCRA) Clean Closure Criteria have not yet been established for the Site. The Default Closure Levels were obtained from the Interim Draft (Revision 1) RISC *Technical Resource Guidance Document*, dated February 18, 1999. The Acceptable Soil Criteria and the RISC Tier 1 Commercial/Industrial Default Closure Levels provided by IDEM are both presented in Table 2. The analytical results for the soil samples are compared to the Acceptable Soil Criteria in Table 3. The analytical results for the soil samples are compared to the RISC Tier 1 Commercial/Industrial Default Closure Levels in Table 4. The complete set of analytical results is summarized in Attachment 1.

Half of the 30 sampling locations contained no compounds at concentrations of above the Acceptable Soil Criteria. Nineteen of the 30 sampling locations contained no compounds at concentrations of above IDEM's RISC Tier 1 Commercial/Industrial Default Closure Levels. Figure 2 shows those locations that contained compounds at concentrations above the Acceptable Soil Criteria. Figure 3 shows those locations that contained compounds at concentrations above the IDEM RISC Tier 1 Commercial/Industrial Default Closure Levels.

The Enviro-Chem Trustees are currently preparing a proposed work plan to address the above areas as well as the "Hot Spot" areas to the south of the excavation area of the south concrete pad.

If you have any questions about this letter or any other aspects of the project, please do not hesitate to contact us.

Sincerely,

ENVIRON International Corporation

Ronald E. Hutchens, P.E.

Principal

REH:als

D:\Client Project Files\ECC\Word Files\South Pad Report.doc

cc: Dr. Roy O. Ball - ENVIRON International Corp.

Mr. Norman W. Bernstein - N.W. Bernstein & Associates

Mr. Mark Dowiak – Radian International Corp.

Mr. Myron Waters – IDEM

Mr. Tim Harrison - CH2M Hill

Mr. George Anastos – Versar, Inc.



TABLE 1

SAMPLE INFORMATION SUMMARY
SOUTHERN PAD AREA
ENVIRO-CHEM SITE
ZIONSVILLE, INDIANA

Sample					
Location		Date	Sample	Coor	dinates
Name	Sample ID	Sampled	Location	Northing	Easting
SB01	980625-S01	6/25/98	Sidewall	921750	725778
SB02	980625-S02	6/25/98	Sidewall	921750	725773
SB03	980625-S03	6/25/98	Sidewall	921721	725789
SB04	980625-S04	6/25/98	Sidewall	921677	725780
SB05	980625-S05	6/25/98	Bottom	921747	725793
SB06	980625-S06	6/25/98	Bottom	921690	725800
SB07	980627-S07	6/27/98	Bottom	921748	725824
SB08	980627-S08	6/27/98	Bottom	921693	725833
SB09	980627-S09	6/27/98	Bottom ¹	921644	725777
SB10	980629-S10	6/29/98	Bottom	921774	725853
SB11	980629-S11	6/29/98	Bottom	921756	725877
SB12	980629-S12	6/29/98	Bottom	921724	725869
SB13	980709-S13	7/9/98	Sidewall	921629	725821
SB14	980709-S14	7/9/98	Sidewall	921613	725832
SB15	980709-S15	7/9/98	Sidewall	921604	725859
SB16	980709-S16	7/9/98	Bottom	921629	725833
SB17	980709-S17	7/9/98	Bottom	921612	725860
SB18	980709-S18	7/9/98	Bottom	921684	725850
SB19	980709-S19	7/9/98	Bottom	921660	725868
SB20	980 709-S2 0	7/9/98	Bottom	921622	725879
SB21	980715-S21	7/15/98	Sidewall	921604	725899
SB22	980715-S22	7/15/98	Bottom	921619	725908
SB23	980715-S23	7/15/98	Bottom	921647	725893
SB24	980715-S24	7/15/98	Bottom	921678	725900
SB25	980729-S25	7/29/98	Sidewall	921615	725929
SB26	980729-S26	7/29/98	Sidewall	921675	725947
SB27	980729-S27	7/29/98	Bottom	921646	725911
SB28	980729-S28	7/29/98	Bottom	921619	725921
SB29	980729-S29	7/29/98	Sidewall	921740	725938
SB30	980729-S30	7/29/98	Bottom	921750	725928

Note:

¹ Sample collected from bottom of excavation of culvert pipe removal.

TABLE 2

SOIL CLEANUP CRITERIA ENVIRO-CHEM SITE ZIONSVILLE, INDIANA

Parameter	Acceptable Soil Concentrations ¹ µg/kg	IDEM's RISC Tier 1 Commercial/Industrial Closure Levels ² µg/kg
Volatile Organic Compounds		
Acetone	2,196	41,000
1,1-Dichloroethene	762	58
1,2-Dichloroethene (Total) ³	5,782	5.800
Einyi benzene	207,464	200,000
Methylene chloride	126	1,800
Methyl ethyl ketone	352	260,000
Methyl isobutyl ketone	18,200	To Be Determined by IDEM
Tetrachloroethene	77	640
Toluene	546,134	240,000
1,1,1-Trichloroethane	47,871	89,000
1,1,2-Trichloroethane	71	300
Trichloroethene	812	3,000
Vinyl chloride	8.3	13
Xylenes (total)	5,596,192	410,000
Semivolatile Organic Compounds		
1,2-Dichlorobenzene	370,160	260,000
Phenol	51,680	320,000

Notes:

Key:

IDEM = Indiana Department of Environmental Management.

RISC = Risk Integrated System of Closure.

¹ From Table 3.1 of the Revised Exhibit A of the Enviro-Chem Consent Decree, dated May 7, 1997.

² Based on IDEM's Interim RISC Tier 1 Default Closure Table - Residential obtained from the RISC Technical Resource Guidance Document, Interim Draft (Revision 1), dated February 18, 1999.

³ No RISC Tier 1 Closure Level has been established for total 1,2-dichloroethene. The value shown is for the cis-1,2-dichloroethene, the more stringent standard of the cis- and trans-1,2-dichloroethene isomers.

TABLE 3

ANALYTICAL RESULTS AS COMPARED TO THE ACCEPTABLE SOIL CONCENTRATIONS

SOUTHERN PAD AREA
ENVIRO-CHEM SITE
ZIONSVILLE, INDIANA

[Page 1 of 2]

Location		S01	S02	S03	S04	S05	S06	S07	S08	S09	S10	S11	S12	S13	S14	S15
I Jnits		կ ջ/kջ	μ e/ke	ப <u>ுஜ/k</u> ஜ	դ ն/k ճ	це/ке	ப <u>ு த</u> /kg	це/k е	பு g/k g	սջ/kջ	դ ջ/kջ	μ ε/kε	, դ ջ/kջ	μ ϩ/kϩ	μ ջ/kջ	դ ջ/kջ
Volatile Organic Compounds	m 10/3	ND	100		MD	,,,,	NT.		.,,,	NID	07	4.2	200	,,,,	,,,,	
Acetone	[2,196]		120	ND	ND	ND	ND	ND	ND	ND	27	43	29	ND	ND	ND
1,1-Dichloroethene	[762]	ND	ND	ND	ND	790	ND	ND	ND	ND	ND	ND	ND	ND	ND	5,700
1,2-Dichloroethene (Total)	[5,782]	6,200	22	14,000	1,800	6,900	1,400	ND	ND	ND	ND	ND	ND	58	21,000	44,000
Ethylbenzene	[207,464]	1,400	26	ND	ND	510	ND	ND	ND	ND	ND	ND	ND	ND	340	6,600
Methylene chloride	[126]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	720
Methyl ethyl ketone	[352]	2,700	28	2,500	2,600	3,100	2,600	ND	2,900	1,900	ND	ND	ND	ND	2,700	3,100
Methyl isobutyl ketone	[18,200]	ND	ND	ND	ND	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	[77]	ND	ND	ND	ND	2,700	ND	ND	ND	ND	ND	ND	ND	ND	ND	110,000
Toluene	[546,134]	730	10	ND	ND	24,000	ND	ND	ND	ND	ND	ND	ND	ND	2,700	19,000
1,1,1-Trichloroethane	[47,871]	3,100	ND	2,600	ND	43,000	ND	ND	ND	34,000	ND	ND	ND	16	530	580,000
1,1,2-Trichloroethane	[71]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	[812]	ND	ND	ND	ND	170,000	2,000	ND	830	ND	ND	ND	ND	8	ND	53,000
Vinyl chloride	[8.3]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	[5,596,192]	5,100	66	ND	ND	1,100	ND	ND	ND	ND	ND	ND	ND	ND	1,400	32,000
								ļ								
Semivolatile Organic Compounds																
1,2-Dichlorobenzene	[370,160]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	6,500
Phenol	[51,680]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND

Note:

Concentrations in **bold** exceed the Acceptable Soil Concentrations as shown on Table 3-1 of the Revised Exhibit A.

Key:

[2,196] = Acceptable Soil Concentrations from Table 3-1 of the Revised Exhibit A.

ND = Not detected.

-- = Not analyzed due to insufficient sample volume.

TABLE 3

ANALYTICAL RESULTS AS COMPARED TO THE ACCEPTABLE SOIL CONCENTRATIONS¹ SOUTHERN PAD AREA ENVIRO-CHEM SITE ZIONSVILLE, INDIANA

[Page 2 of 2]

Location		S16	S17	S18	S19	S20	S21	S22	S23	S24	S25	S26	S27	S28	S29	S30
Units		μ g/kg	μg/kg	μg/kg	μg/kg	μ g/k g	μ g/kg	μg/kg	μg/kg	μ g/k g	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
Volatile Organic Compounds								-								
Acetone	[2, 196]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,900	ND
1,1-Dichloroethene	[762]	910	1,400	ND	ND	ND	ND	ND	ND	ND	19	ND	ND	ND	52	ND
1,2-Dichloroethene (Total)	[5,782]	7,400	12,000	ND	10	10	ND	ND	ND	ND	1,000	24	24	8	2,200	ND
Ethylbenzene	[207,464]	ND	2,600	ND	ND	ND	ND	ND	ND	ND	62	7	ND	ND	370	ND
Methylene chloride	[126]	ND	1,700	ND	ND	ND	ND	3,800	ND	ND	75	ND	15	ND	3,700	ND
Methyl ethyl ketone	[352]	2,900	3,100	ND	ND	ND	ND	2,500	ND	ND	ND	ND	ND	ND	1,000	ND
Methyl isobutyl ketone	[18,200]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	280	ND
Tetrachloroethene	[77]	3,400	27,000	ND	ND	ND	6	ND	ND	ND	ND	ND	7	10	3,100	ND
Toluene	[546,134]	1,800	8,500	ND	11	7	7	ND	ND	ND	790	16	ND	ND	250	ND
1,1,1-Trichloroethane	[47,871]	70,000	ND	ND	8	78	ND	ND	ND	ND	19	ND	31	6	2,600	ND
1,1,2-Trichloroethane	[71]	ND	ND	ND	ND	NĐ	ND	ND	ND	ND	ND	ND	ND	ND	98	ND
Trichloroethene	[812]	42,000	63,000	ND	ND	12	ND	ND	ND	ND	ND	ND	42	7	6,800	ND
Vinyl chloride	[8.3]	ND	ND	ND	ND	ND	ND	ND	ND	ND	70	ND	43	ND	ND	ND
Xylenes (total)	[5,596,192]	1.500	12,000	ND	ND	ND	ND	ND	ND	ND	250	14	ND	ND	1,200	ND
Semivolatile Organic Compounds																
1,2-Dichlorobenzene		ND	5,800	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	4,162	ND
Phenol	[51,680]	ND	ND	ND	ND		ND_	ND	ND	ND	ND	ND	ND	ND	1,108	ND_

Note:

Concentrations in **bold** exceed the Acceptable Soil Concentrations as shown on Table 3-1 of the Revised Exhibit A.

Key:

[2,196] = Acceptable Soil Concentrations from Table 3-1 of the Revised Exhibit A.

ND = Not detected.

= Not analyzed due to insufficient sample volume.

TABLE 4

ANALYTICAL RESULTS AS COMPARED TO IDEM'S RCRA CLEAN CLOSURE CRITERIA¹ SOUTHERN PAD AREA ENVIRO-CHEM SITE ZIONSVILLE, INDIANA

[Page 1 of 2]

Location		S01	S02	S03	S04	S05	S06	S07	S08	S09	S10	S11	S12	S13	S14	S15
Units		μ g/kg	μ g/kg	μ g/kg	μ g/kg	μ g/kg	μ g/kg	μ g/kg	μ g/kg	μ g/kg	μ g/kg	μ g/kg	μ g/kg	μ g/kg	μ g/kg	μ g/kg
Volatile Organic Compounds																
Acetone	[41,000]	ND	120	ND	27	43	29	ND	ND	ND						
1,1-Dichloroethene	[58]	ND	ND	ND	ND	790	ND	5,700								
1,2-Dichloroethene (Total)	[5,800]	6,200	22	14,000	1,800	6,900	1,400	ND	ND	ND	ND	ND	ND	58	21,000	44,000
Ethylbenzene	[200,000]	1,400	26	ND	ND	510	ND	340	6,600							
Methylene chloride	[1,800]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	720
ivietny etny ketone		~2,7/000	28	2,300	2,600	3,100	2,600	I ND	2,900	1,900	ND	ND	ND	ND	2,700	3,100
Methyl isobutyl ketone	TBD	ND	ND	ND	ND	1,000	ND									
Tetrachloroethene	[640]	ND	ND	ND	ND	2,700	ND	110,000								
Toluene	[240,000]	730	10	ND	ND	24,000	ND	2,700	19,000							
1,1,1-Trichloroethane	[8 9,00 0]	3,100	ND	2,600	ND	43,000	ND	ND	ND	34,000	ND	ND	ND	16	530	580,000
1,1,2-Trichloroethane	[300]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	[3,000]	ND	ND	ND	ND	170,000	2,000	ND	830	ND	ND	ND	ND	8	ND	53,000
Vinyl chloride	[13]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	/410,000]	5,100	66	ND	ND	1,100	ND	1,400	32,000							
Semivolatile Organic Compounds	1					,								,,,,	ND	6.500
1,2-Dichlorobenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	6,500
Phenol	[320,000]	ND	ND	ND	ND	ND	ND	ND	ND_	ND	ND	ND		ND	ND	ND

Note:

Concentrations in **bold** exceed IDEM's Interim Risk Integrated System of Closure, Tier 1 Commercial/Industrial Default Closure Levels.

Key:

IDEM = Indiana Department of Environmental Management.

RCRA = Resource Conservation and Recovery Act.

RISC = Risk Integrated System of Closure.

[41,000] = IDEM's RISC Tier 1 Commercial/Industrial Default Closure Levels.

TBD = To be determined by IDEM.

ND = Not detected.

-- - Not analyzed due to insufficient sample volume.

TABLE 4

ANALYTICAL RESULTS AS COMPARED TO IDEM'S RCRA CLEAN CLOSURE CRITERIA¹ SOUTHERN PAD AREA ENVIRO-CHEM SITE ZIONSVILLE. INDIANA

[Page 2 of 2]

Location Units		S16 µg/kg	S17 µg/kg	S18 µg/kg	S19 μg/kg	S20 µg/kg	S21 µg/kg	S22 μg/kg	S23 μg/kg	S24 µg/kg	S25 µg/kg	S26 µg/kg	S27 μ g/kg	S28 µg/kg	S29 µg/kg	S30 µg/kg
Volatile Organic Compounds																
Acetone	[41,000]	ND	ND	1,900	ND											
1,1-Dichloroethene	[58]	910	1,400	ND	19	ND	ИD	ND	52	ND						
1,2-Dichloroethene (Total)	[5,800]	7,400	12,000	ND	10	10	ND	ND	ND	ND	1,000	24	24	8	2,200	ND
Ethylbenzene	[200,000]	ND	2,600	ND	62	7	ND	ND	370	ND						
Methylene chloride	[1,800]	ND	1,700	ND	ND	ND	ND	3,800	ND	ND	75	ND	15	ND	3,700	ND
Methyl ethyl ketone	[260,000]	2,900	3,100	ND	ND	ND	ND	2,500	ND	ND	ND	NĐ	ND	ND	1,000	ND
Methyl isobutyl ketone	TBD	ND	ИD	ND	ND	ND	7	280	ND							
Tetrachloroethene	[640]	3,400	27,000	ND	ND	ND	6	ND	ND	ND	ND	ND	7	10	3,100	ND
Toluene	[240,000]	1,800	8,500	ND	11	7	7	ND	ND	ND	790	16	ND	ND	250	ND
1.1,1-Trichloroethane	[89,000]	70,000	ND	ND	8	78	ND	ND	ND	ND	19	ND	31	6	2,600	ND
1.1,2-Trichloroethane	[300]	ND	ND	98	ND											
Trichloroethene	[3,000]	42,000	63,000	ND	ND	12	ND	ND	ND	ND	ND	ND	42	7	6,800	ND
Vinyl chloride	[13]	ND	ND ND	70	ND	43	ND	ND	ND							
Xylenes (total)	[410,000]	1,500	12,000	ND	250	14	ND	ND	1,200	ND						
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,											l	ļ]		-
Semivolatile Organic Compounds										1		1		1		
1,2-Dichlorobenzene	[260,000]	ND	5,800	ND	ND		ND	ND	4,162	ND						
Phenol	[320,000]	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND_	ND	1,108	ND

Note:

Key:

IDEM - Indiana Department of Environmental Management.

RCRA == Resource Conservation and Recovery Act.

RISC = Risk Integrated System of Closure.

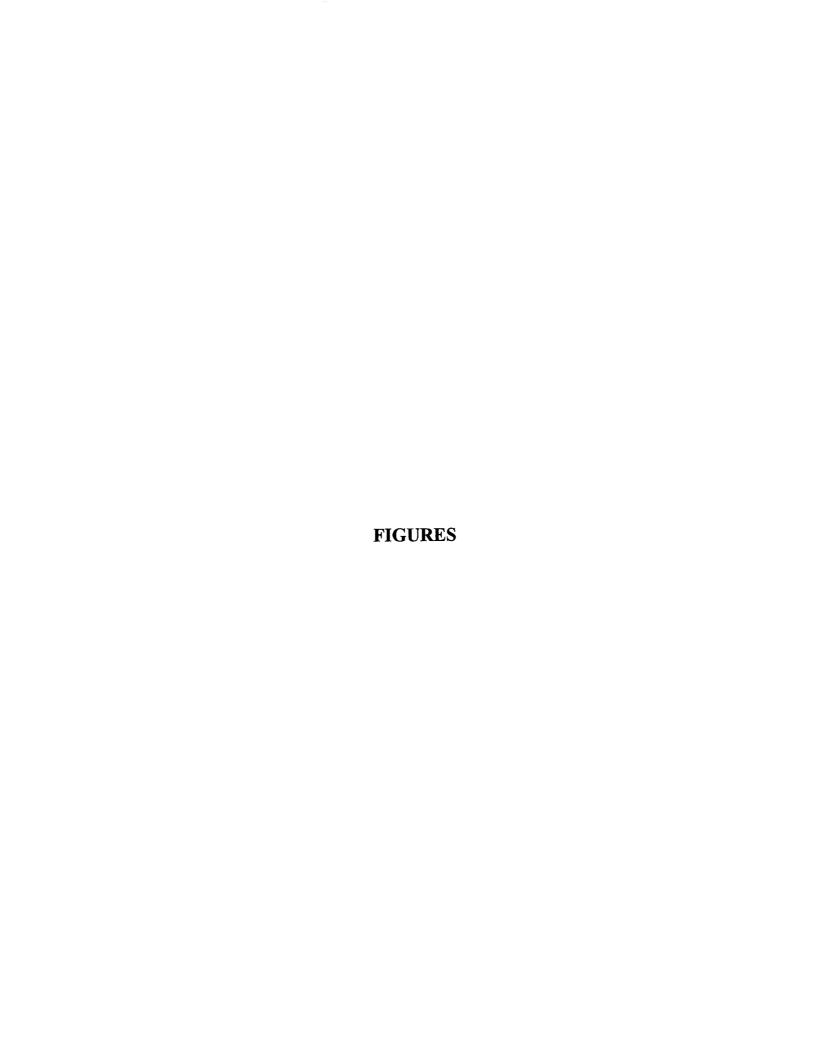
[41,000] = IDEM's RISC Tier 1 Commercial/Industrial Default Closure Levels.

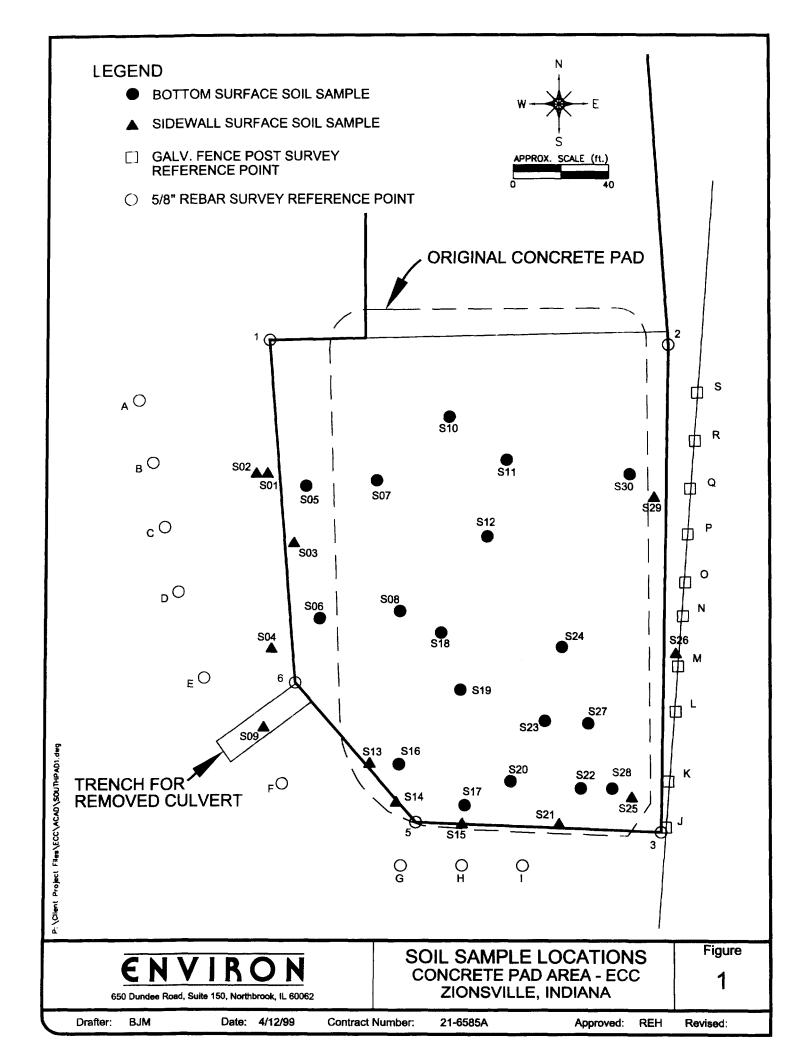
TBD = To be determined by IDEM.

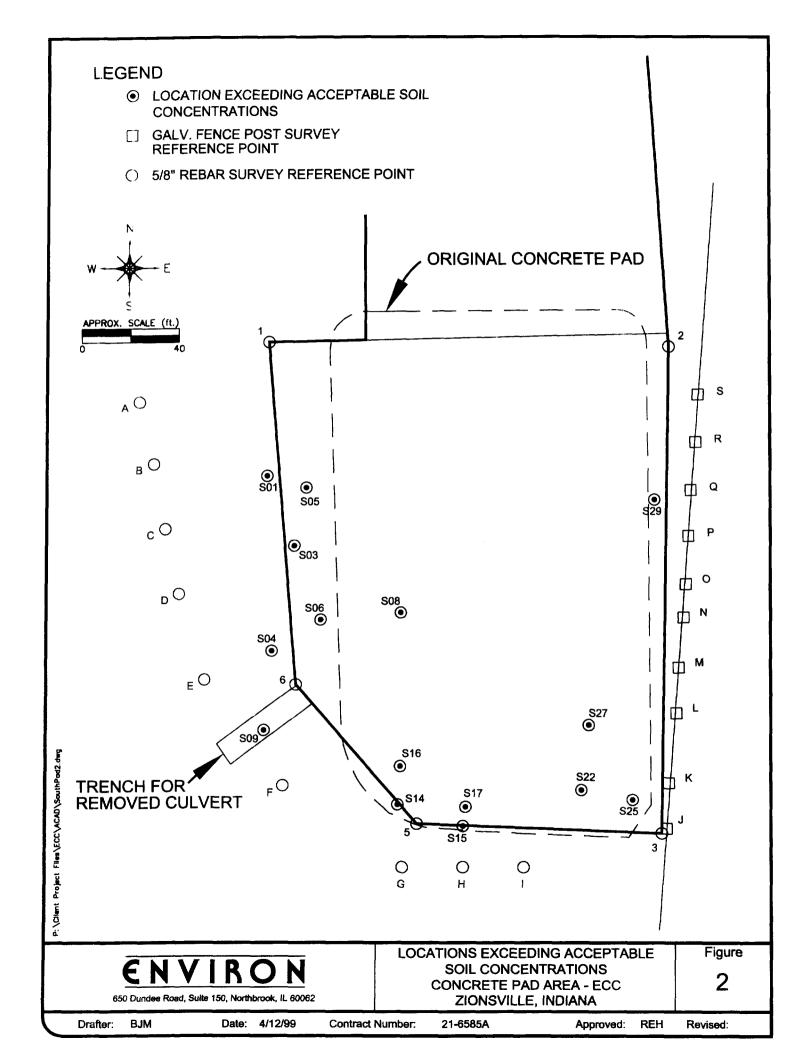
ND = Not detected.

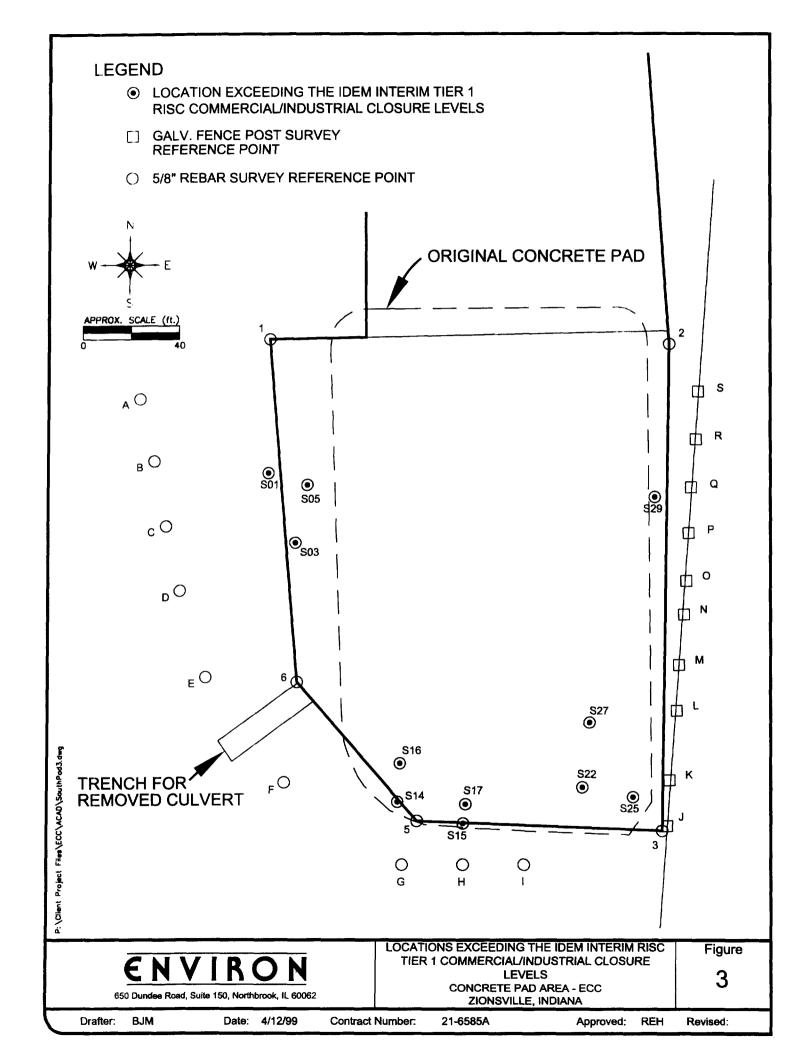
Not analyzed due to insufficient sample volume.

Concentrations in **bold** exceed IDEM's Interim Risk Integrated System of Closure, Tier 1 Commercial/Industrial Default Closure Levels.









Attachment 1
Laboratory Analytical Results
Summary

LABORATORY ANALYTICAL RESULTS SUMMARY SOUTHERN PAD AREA ENVIRO-CHEM SITE ZIONSVILLE, INDIANA

Sample ID:	980625-S01	980625-S02	980625-S03	ONSVILLE, I 980625-S04	980625-S05	980625-\$06	980627-S07	980627-S08	980627-S09	980629-S010
Location:	S01	S02	S03	S04	S05	\$06	\$07	S08	S09	S10
Date Collected: Units:		06/25/98 μg/kg	06/25/98 μg/kg	06/25/98 μg/kg	06/25/98 μg/kg	06/25/98 μg/kg	06/27/98 μg/kg	06/27/98 μg/kg	06/27/98 μg/kg	06/29/98 μg/kg
Volatile Organic Compounds										
1,1,1-Trichloroethane 1,1,2,2-Trichloroethane	3,100 ND	ND ND	2,600 ND	ND ND	43,000 ND	ND ND	ND ND	ND ND	34,000 ND	ND ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane 1,1-Dichloroethene	ND ND	ND ND	1,100 ND	ND ND	6,700 790	ND ND	ND ND	1,400 ND	18,000 ND	ND ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene (Total) 1,2-Dichloropropane	6,200 ND	22 ND	14,000 ND	1,800 ND	6,900 ND	1,400 ND	ND ND	ND ND	ND ND	ND ND
Methyl ethyl ketone	2,700	28	2,500	2,600	3,100	2,600	ND	2,900	1,900	ND
2-Chloroethylvinylether 2-Hexanone	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Methyl isobutyl ketone	ND	ND	ND	ND	1,000	ND	ND	ND	ND	ND
Acetone Benzene	ND ND	120 ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	27 ND
Bromodichloromethane Bromoform	ND ND	ND ND	ND ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Carbon disulfide Carbon tetrachloride	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND	ND
Chlorobenezene	ND	ND	ND	ND	ND	ND	ND	ND	ND ND	ND ND
Chlorodibromomethane Chloroethane	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Chloroform	680	ND	700	ND	ND	ND	ND	ND	ND	ND
Chloromethane cis-1.2-Dichloroethene	ND 6,100	ND ND	ND 14,000	ND 1,800	ND 6,800	ND 1,400	ND ND	ND ND	ND ND	ND ND
cis-1,2-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene m,p-Xylenes	1,400 3,100	26 40	ND ND	ND ND	510 1,100	ND ND	ND ND	ND ND	ND ND	ND ND
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene(s) Styrene	2,000 ND	26 ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Tetrachloroethene	ND	ND	ND	ND	2,700	ND	ND	ND	ND	ND
Toluene trans-1,2-Dichloroethene	730 ND	10 22	ND ND	ND ND	24,000 ND	ND ND	ND ND	ND ND	ND ND	ND ND
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene Trichlorofluoromethane	ND ND	ND ND	ND ND	ND ND	170,000 ND	2,000 ND	ND ND	830 ND	ND ND	ND ND
Vinyl acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride Xylenes (total)	ND 5,100	ND 66	ND ND	ND ND	ND 1,100	ND ND	ND ND	ND ND	ND ND	ND ND
Semivolatile Organic Compounds	ND	ND	ND	N.D.	ND	ND	ND	7/5		ND
1,2,4-Trichlorobenzene 1,2-Dichlorobenzene	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
1,2-Diphenylhydrazine	ND ND	ND ND	ND ND	ND	ND ND	ND ND	ND	ND	ND ND	ND
1,3-Dichlorobenzene 1,4-Dichlorobenzene	ND ND	ND ND	ND	ND ND	ND	ND	ND ND	ND ND	ND ND	ND ND
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol 2,4-Dinitrophenol	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene 2-Chloronaphthalene	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnapthalene 2-Methylphenol	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
2-Nitroanaline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol 3,3'-Dichlorobenzidine	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol 4-Bromophenylphenyl ether	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
4-Chloro-3-methylphenol 4-Chloroaniline	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
4-Chloropheylphenyl ether	ND ND	ND ND	ND ND	ND ND	ND ND	ND	ND ND	ND	ND ND	ND ND
4-Nitroanaline 4-Nitrophenol	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene Analine	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene Benzo(a)pyrene	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene Benzo(k)fluoranthene	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Benzoic acid	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl alcohol bis(2-Chloroethoxy)methane	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND ND	ND ND	ND ND
bis(2-Chloroisopropyl)ether bis(2-Ethylbexyl)phthalate	ND ND	ND 400	ND ND	ND ND	ND ND	ND ND	ND ND	1,000	ND ND	ND DN
Butylbenzylphthalate	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Carbazole Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
di-n-Butyl phthalate di-n-Octyl phthalate	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran Diethylohthalate	ND ND	ND ND	ND ND	ND ND	ND 6,000	ND ND	ND ND	ND ND	ND ND	ND ND
Dimethyl phthalate	ND	ND	ND	ND	2,600	ND	ND	ND	ND	ND
Fluoranthene Fluoroene	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Hexachlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene Hexachlorocyclopentadiene	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ŅĎ	ND	ND
Indeno(1,2,3-cd)pyrene Isophorone	ND ND	ND ND	ND ND	ND ND	ND 580	ND ND	ND ND	ND ND	ND ND	ND ND
m,p-Cresols	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND ND
N-Nitroso-di-n-propylamine N-Nitrosodiphenylamine	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND ND
Nitrobenzene Pentachlorophenol	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND
Phenanthrene	ND	ŊD	ND	ND	ND	ND ND	ND ND	ND ND	ND ND	ND ND
Phenol Pyrene	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND

LABORATORY ANALYTICAL RESULTS SUMMARY SOUTHERN PAD AREA ENVIRO-CHEM SITE ZIONSVILLE, INDIANA

Sample ID:	980629-S011	980629-S012		ONSVILLE, I	980709-S015	980709-S016	980709-S017	980709-S018	980709-S019	980709-S020
Location:	S11	S12	\$13	S14	S15	\$16	\$17	\$18	\$19	\$20
Date Collected: Units:	06/29/98 μg/kg	06/29/98 μg/kg	07/09/98 μg/kg							
Volatile Organic Compounds	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	P8/ NB	75.5	M8/ M8	M8/ M8		P6, 48	P8/85	P8/ N5	<u>μ</u> 8/
1,1,1-Trichloroethane 1,1,2,2-Trichloroethane	ND ND	ND ND	16 ND	530 ND	580,000	70,000	ND	ND ND	8	78 ND
1,1,2-Trichloroethane	ND	ND ND								
1,1-Dichloroethane 1,1-Dichloroethene	ND	ND ND	19 ND	1,400	11,000	2,100	9,600	ND	ND	7
1,2-Dichloroethane	ND ND	ND ND	ND ND	ND ND	5,700 ND	910 ND	1,400 ND	ND ND	ND ND	ND ND
1,2-Dichloroethene (Total)	ND	ND	58 ND	21,000	44,000	7,400	12,000	ND	10	10
1,2-Dichloropropane Methyl ethyl ketone	ND ND	ND ND	ND ND	ND 2,700	ND 3,100	ND 2,900	ND 3,100	ND ND	ND ND	ND ND
2-Chloroethylvinylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone Methyl isobutyl ketone	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Acetone	43	29	ND							
Benzene Bromodichloromethane	ND ND	ND ND	ND ND	ND ND	ND 560	ND 420	ND 480	ND ND	ND ND	ND ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane Carbon disulfide	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenezene Chlorodibromomethane	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND ND	ND
Chloroform Chloromethane	ND ND	ND ND	ND ND	ND ND	480 ND	ND ND	ND ND	ND ND	ND ND	ND ND
cis-1,2-Dichloroethene	ND	ND ND	58	21,000	40,000	6,300	11,000	ND ND	10	10
cis-1,2-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene m,p-Xylenes	ND ND	ND ND	ND ND	340 710	6,600 23,000	ND 760	2,600 9,100	ND ND	ND ND	ND ND
Methylene chloride	ND	ND	ND	ND	720	ND	1,700	ND	ND	ND
o-Xylene(s) Styrene	ND ND	ND ND	ND ND	710 ND	7,000 ND	760 ND	2,800 ND	ND ND	ND ND	ND ND
Tetrachloroethene	ND	ND	ND	ND	110,000	3,400	27,000	ND	ND	ND
Toluene trans-1,2-Dichloroethene	ND ND	ND ND	ND ND	2,700 ND	19,000 860	1,800 830	8,500 430	ND ND	11 ND	7 ND
trans-1,2-Dichloroethene trans-1,3-Dichloropropene	ND ND	ND	ND ND	ND ND	ND	ND	ND	ND ND	ND ND	ND ND
Trichloroethene	ND	ND	8	ND	53,000	42,000	63,000	ND	ND	12
Trichlorofluoromethane Vinyl acetate	ND ND	ND ND	ND ND	6,400 ND	11,000 ND	39,000 ND	3,300 ND	ND ND	ND ND	ND ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total) Semivolatile Organic Compounds	ND	ND	ND	1,400	32,000	1,500	12,000	ND	ND	ND
1,2,4-Trichlorobenzene	ND		ND							
1,2-Dichlorobenzene 1,2-Diphenylhydrazine	ND ND		ND ND	ND ND	6,500 ND	ND ND	5,800 ND	ND ND	ND ND	
1,3-Dichlorobenzene	ND		ND							
1,4-Dichlorobenzene 2,4,5-Trichlorophenol	ND ND		ND ND							
2,4,6-Trichlorophenol	ND		ND ND	ND ND	ND ND	ND	ND	ND ND	ND ND	
2,4-Dichlorophenol	ND		ND							
2,4-Dimethylphenol 2,4-Dinitrophenol	ND ND		ND ND							
2,4-Dinitrotoluene	ND		ND							
2,6-Dinitrotoluene 2-Chloronaphthalene	ND ND		ND ND							
2-Chlorophenol	ND		ND							
2-Methylnapthalene 2-Methylphenol	ND ND		ND ND							
2-Nitroanaline	ND		ND	ND	ND	ND _	ND	ND	ND	* •
2-Nitrophenol 3,3'-Dichlorobenzidine	ND ND		ND ND							
3-Nitroaniline	ND		ND	ND	ND ND	ND	ND	ND	ND	
4,6-Dinitro-2-methylphenol	ND		ND	ND	ND	ND ND	ND ND	ND ND	ND ND	
4-Bromophenylphenyl ether 4-Chloro-3-methylphenol	ND ND		ND ND	ND ND	ND ND	ND ND	ND	ND ND	ND	
4-Chloroaniline	ND		ND	ND	ND	ND	ND	ND ND	ND ND	
4-Chloropheylphenyl ether 4-Nitroanaline	ND ND		ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND	
4-Nitrophenol	ND		ND							
Acenaphthene Acenaphthylene	ND ND		ND ND							
Analine	ND		ND							
Anthracene Benzo(a)anthracene	ND ND		ND ND							
Benzo(a)pyrene	ND		ND							
Benzo(b)fluoranthene	ND ND		ND ND							
Benzo(g,h,i)perylene Benzo(k)fluoranthene	ND		ND							
Benzoic acid	ND.		ND ND							
Benzyl alcohol bis(2-Chloroethoxy)methane	ND ND		ND ND	ND ND	ND	ND	ND	ND	ND	
bis(2-Chloroethyl)ether	ND		ND	ND	ND ND	ND ND	ND ND	ND ND	ND ND	
bis(2-Chloroisopropyl)ether bis(2-Ethylhexyl)phthalate	ND ND		ND ND	ND ND	ND 650	ND ND	3,400	ND ND	ND	
Butylbenzylphthalate	ND		ND	ND	1,300	500 ND	ND ND	ND ND	ND ND	
Carbazole Chrysene	ND ND		ND ND	ND ND	ND ND	ND ND	ND	ND	ND	
di-n-Butyl phthalate	ND		ND	ND	ND	ND ND	ND ND	ND ND	ND ND	
di-n-Octyl phthalate Dibenz(a,h)anthracene	ND ND		ND ND							
Dibenzofuran	ND		ND							
Diethylphthalate	ND ND		ND ND							
Dimethyl phthalate Fluoranthene	ND		ND							
Fluoroene	ND ND		ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	
Hexachlorobenzene Hexachlorobutadiene	ND ND		ND ND	ND ND	ND ND	ND ND	ND	ND	ND	
Hexachlorocyclopentadiene	ND		ND	ND	ND	ND	ND	ND	ND ND	
Hexachloroethane Indeno(1,2,3-cd)pyrene	ND ND		ND ND							
Isophorone	ND		ND							
m,p-Cresols	ND ND		ND ND							
N-Nitroso-di-n-propylamine N-Nitrosodiphenylamine	ND ND		ND							
Naphthalene	ND		ND ND	ND ND	420 ND	ND ND	ND ND	ND ND	ND ND	
Nitrobenzene Pentachlorophenol	ND ND		ND ND	ND ND	ND ND	ND	ND ND	ND	ND	
Phenanthrene	ND		ND	ND	ND	ND	ND ND	ND	ND ND	
Phenol	ND ND		ND ND							

LABORATORY ANALYTICAL RESULTS SUMMARY SOUTHERN PAD AREA ENVIRO-CHEM SITE ZIONSVILLE, INDIANA

College		Sample ID:	980715-S021	980715-S022	980715-S023	980715-S024		980729-S026	980729-\$027	980729-S028	980729-S029	980729-S030
Water West 1975	Do											
1.01 Transporter 1.00	Da											
13.13.15 Telementer 150		unds	l ND	ND	ND	ND	10	ND	31	<u> </u>	2 600	ND
						ND	ND	ND	ND	ND	ND	ND
Liberatement												
			ND									
Marging Part No.		()										
Security	Methyl ethyl ketone											
Angest	2-Chloroethylvinylether 2-Hexanone											
Interested 60 80 80 80 80 80 80 80	Acetone Benzene		·									
Second auditate	Bromodichloromethane			ND	ND							
Carbon cutations NO N												
Cisconteners	Carbon disulfide		ND	ND								
Classification Clas												
Company Comp	Chlorodibromomethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Columnication No												
September NO MD NO ND ND ND ND ND ND N	Chloromethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Balgheases												
Memory March Mar	Ethylbenzene		ND	ND	ND	ND	62	7	ND	ND	370	ND
Symest												
Tearschorchere	o-Xylene(s)		ND	ND	ND	ND	80	_ 5	ND	ND	300	ND
Telester												
Main	Toluene		7	ND	ND	ND	790	16	ND	ND		
Trinsherectement ND												
Trichiscondenses	Trichloroethene		ND	ND	ND	ND	ND	ND	42			
Viget clothords									5		80	ND
Systems (cods)	Vinyl chloride		ND	ND	ND	ND	70		43			
1.2.4-Trichalendement		omnounds	ND	ND	ND	ND	250	14	ND	ND	1,200	
1.2-Delchordenomenses	1,2,4-Trichlorobenzene	ompounds							ND	ND	ND	ND
13-Delichorebenzere												
1.4.Debtokonbearees												
2.4.6 Pictoleropheseal ND ND ND ND ND ND ND N											ND	ND
2.4-Dischargebreed												
2.4-Districtoplemed							ND	ND	ND	ND	ND	ND
2.4-Distrosobleme												
Collosopheticies				ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophende ND												
2-Methylphenel	2-Chlorophenol			ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Mitroanaline ND N												
3.3-Dichlorobeaudine			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-hitroantiline												
4-Bromophenylphenyl ether ND ND ND ND ND ND ND N			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chiora-neuthylpherol ND ND ND ND ND ND ND N												
4 Chloropheylphenyl efnet ND ND ND ND ND ND ND N	4-Chloro-3-methylphenol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
A-Nitrogalanie		er										
Acenaghthree	4-Nitroanaline		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenghthylene ND ND ND ND ND ND ND N												
Authracene ND	Acenaphthylene		ND	ND	ND	ND	ND_	ND	ND	ND	ND	ND
Benzzo(a)prune												
Benzo(gh)uoranthene	Benzo(a)anthracene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a,h,bperylene ND ND ND ND ND ND ND N												
Benzoic acid ND	Benzo(g,h,i)perylene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzy alcohol ND ND ND ND ND ND ND N												
Disel-2-Chloroestry)ether ND ND ND ND ND ND ND N	Benzyl alcohol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis/2-Chloroisopropylether ND ND <th< td=""><td></td><td>ane</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>		ane										
Butylbenzylphthalate	bis(2-Chloroisopropyl)eth		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole ND	bis(2-Ethylhexyl)phthalat											
di-n-Butyl phthalate			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
di-n-Octyl phthalate												
Dibenz(a,h)anthracene ND ND </td <td>di-n-Octyl phthalate</td> <td></td> <td>ND</td>	di-n-Octyl phthalate		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate												
Fluoranthene	Diethylphthalate		ND	ND	ND	ND	577	ND	ND	ND	ND	ND
Fluoroene ND					ND							
Hexachlorobutadiene	Fluoroene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene												
Hexachloroethane		ne		ND		ND	ND	ND	ND	ND	ND	ND
Isophorone	Hexachloroethane		ND	ND	ND	ND	ND	ND				
m.p-Cresols ND ND ND ND 417 ND									ND	ND	ND	ND
N-Nitrosodiphenylamine	m,p-Cresols		ND	ND	ND	ND	417	ND	ND	ND	ND	
Naphthalene ND											ND	
Pentachlorophenol ND	Naphthalene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ND ND ND ND ND ND ND ND												
The lost of the lo	Phenanthrene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ישו או עוו עוו עוו או און עוו או און און און און און און און און או	Phenol Pyrene		ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	1,108 ND	ND ND